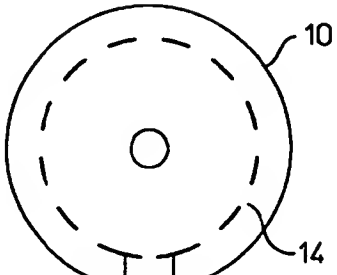


Figure 1a (PRIOR ART)

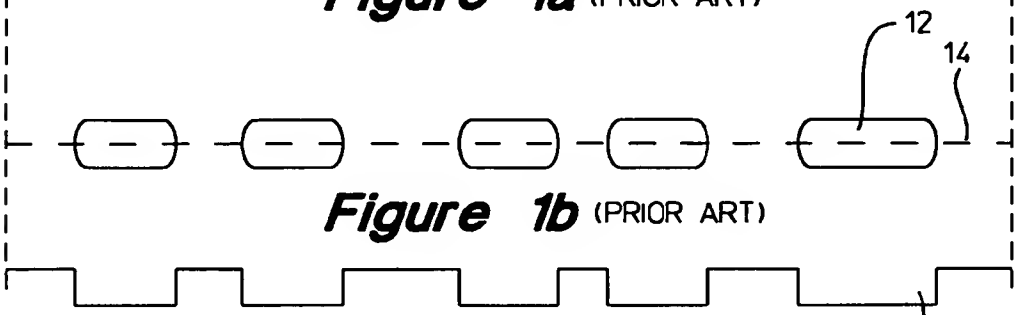


Figure 1b (PRIOR ART)

Figure 1c (PRIOR ART)

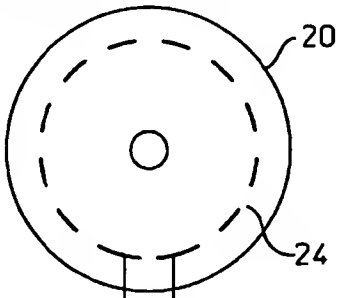


Figure 2a (PRIOR ART)

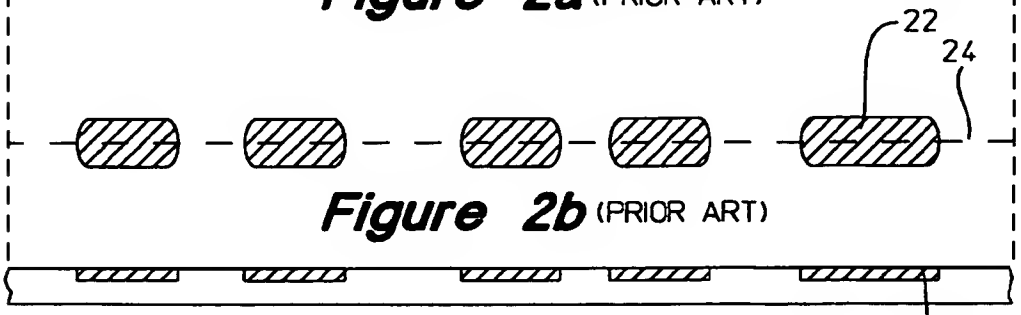


Figure 2b (PRIOR ART)

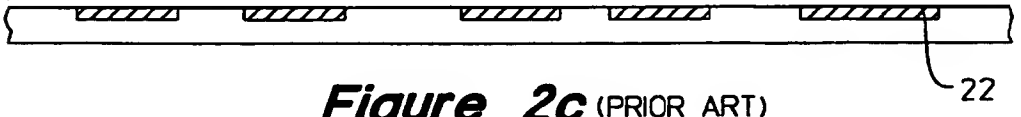
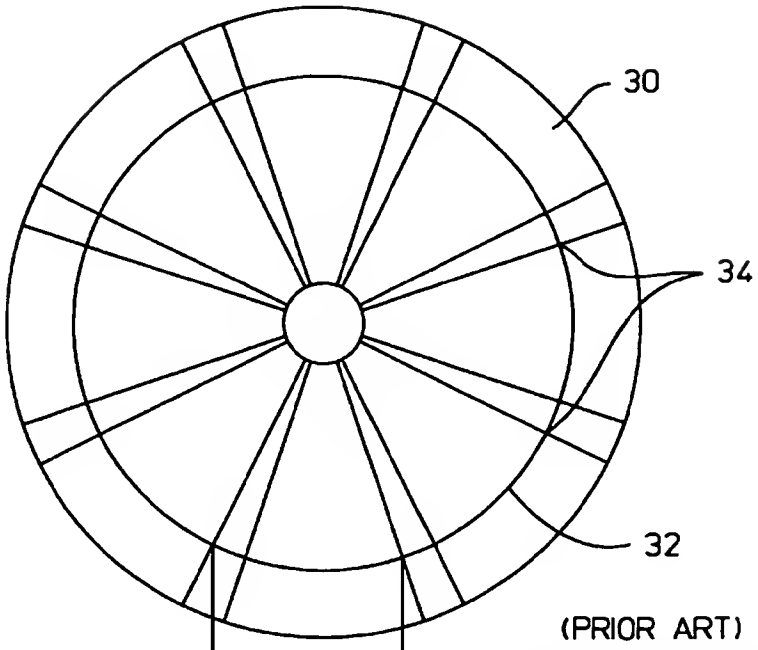


Figure 2c (PRIOR ART)



(PRIOR ART)

Figure 3a

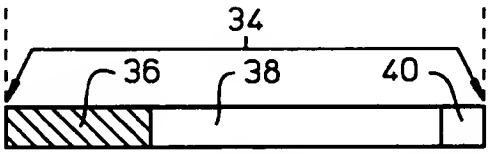


Figure 3b (PRIOR ART)

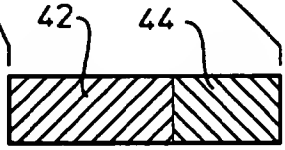


Figure 3c (PRIOR ART)

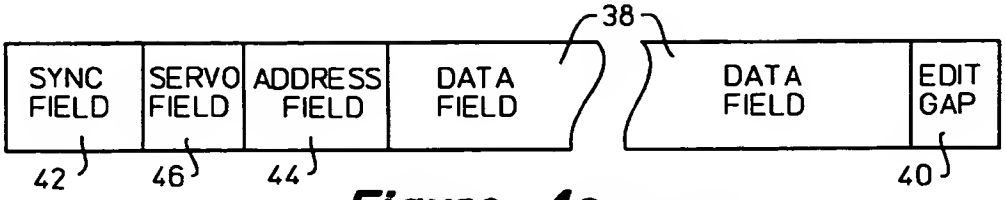


Figure 4a (PRIOR ART)

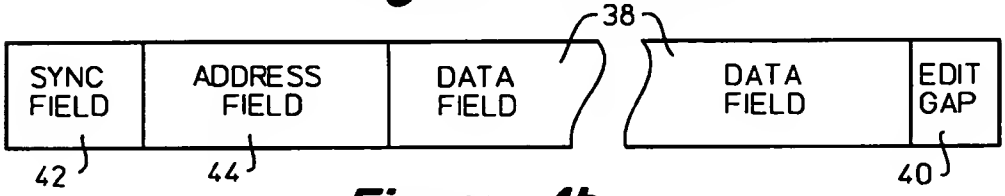


Figure 4b (PRIOR ART)

Figure 4c (PRIOR ART)

Figure 5a

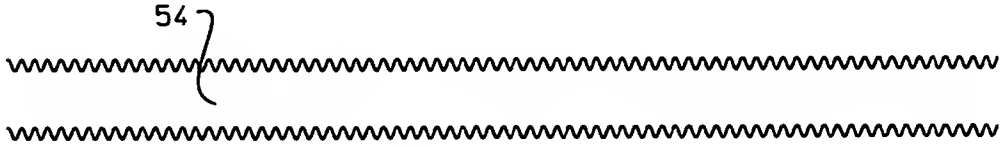


Figure 5b

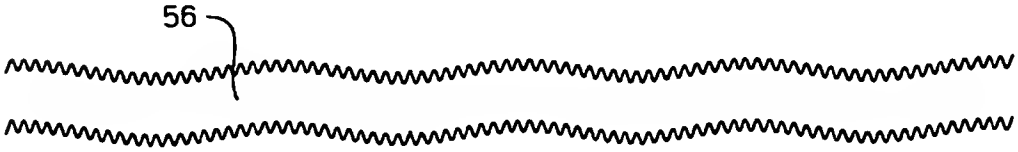


Figure 5c

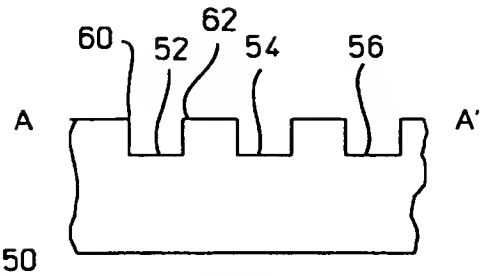


Fig. 7

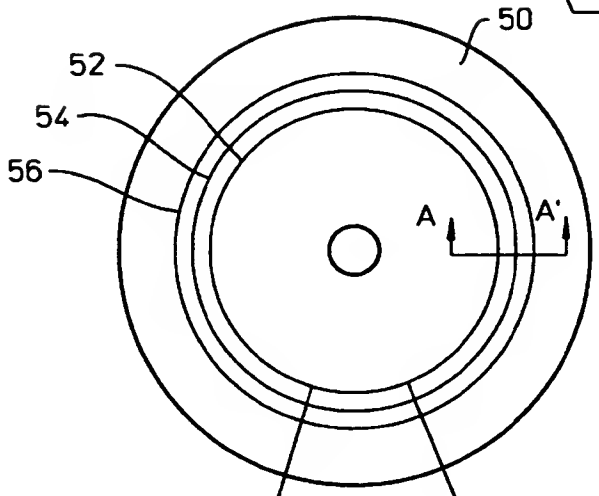


Fig. 6a

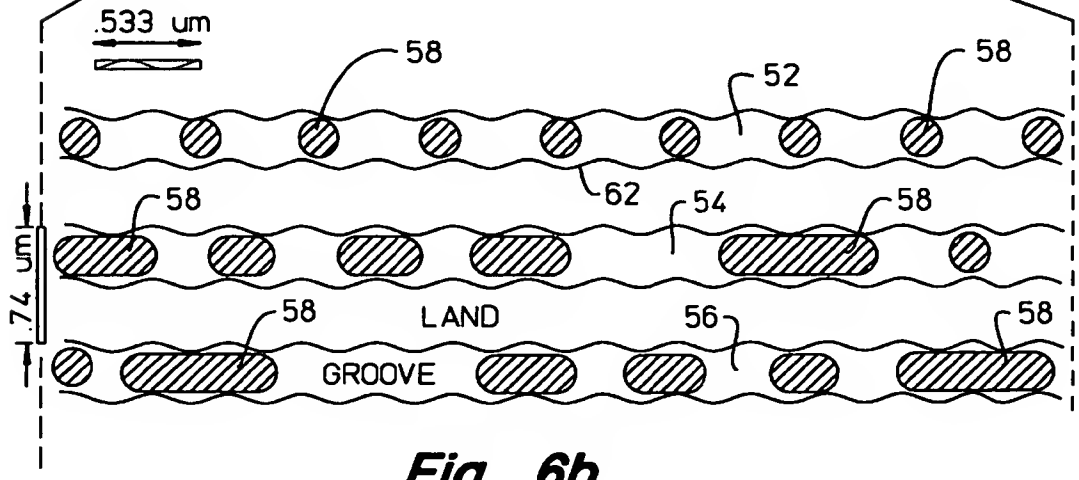


Fig. 6b

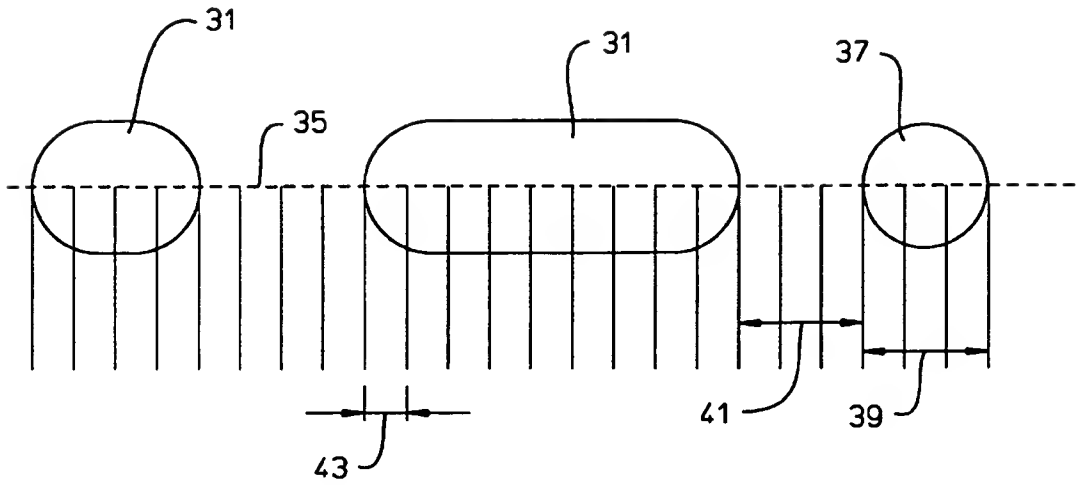


Fig. 8

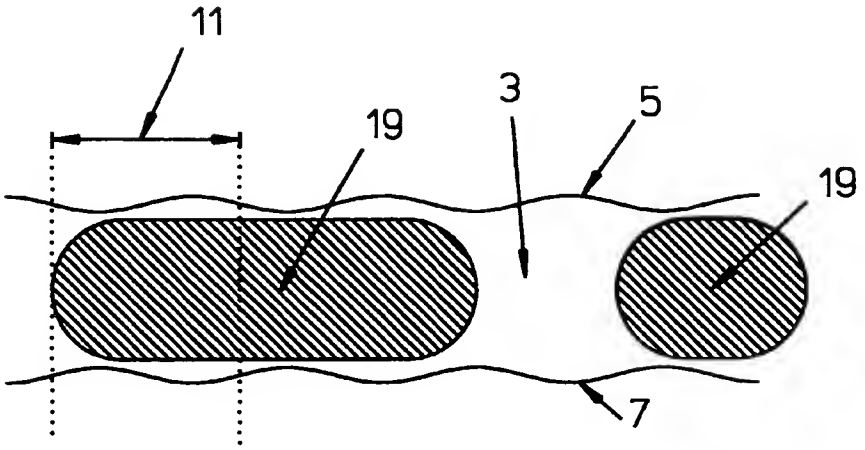


Fig. 9a

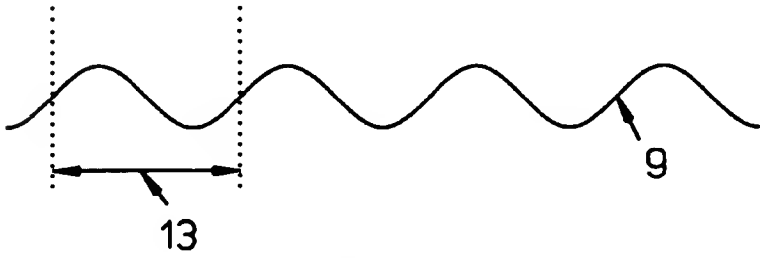


Fig. 9b

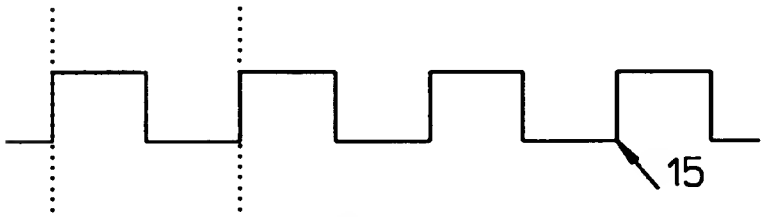


Fig. 9c

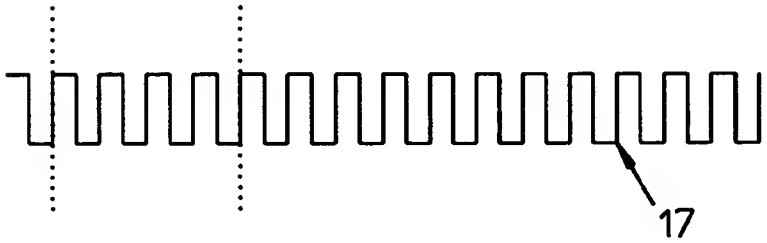
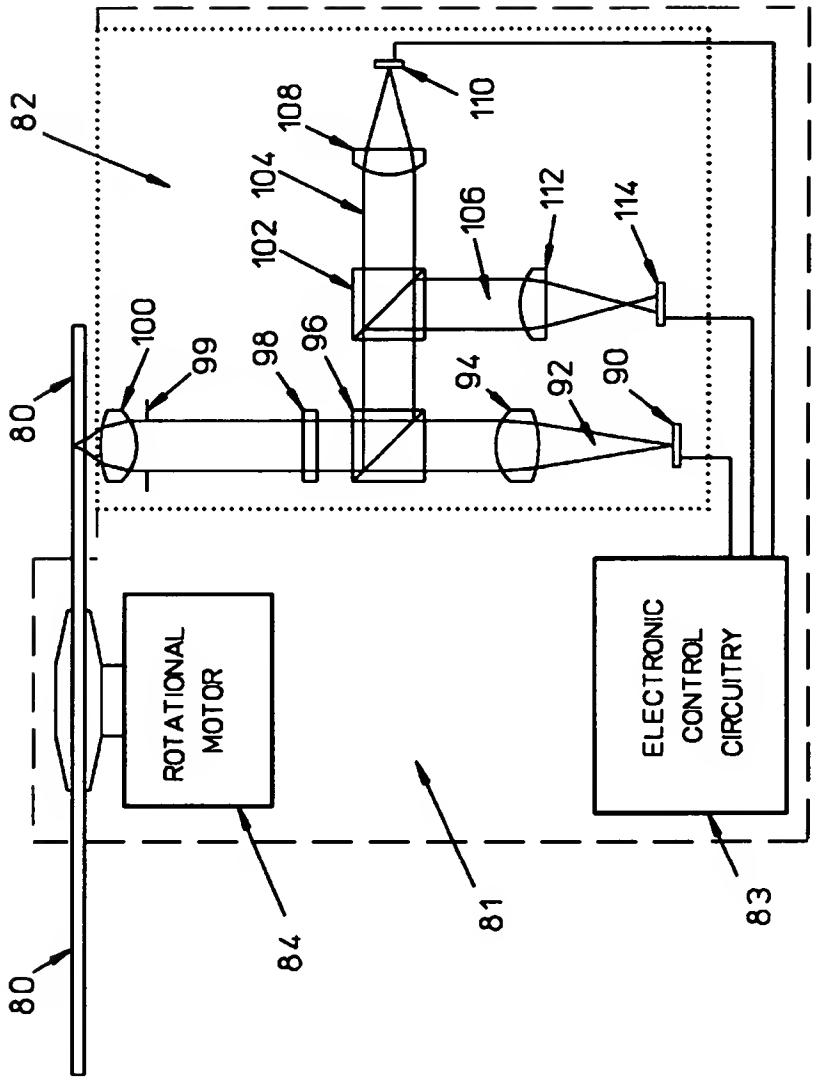


Fig. 9d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ROTATIONAL MOTOR
ELECTRONIC CONTROL CIRCUITRY
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81
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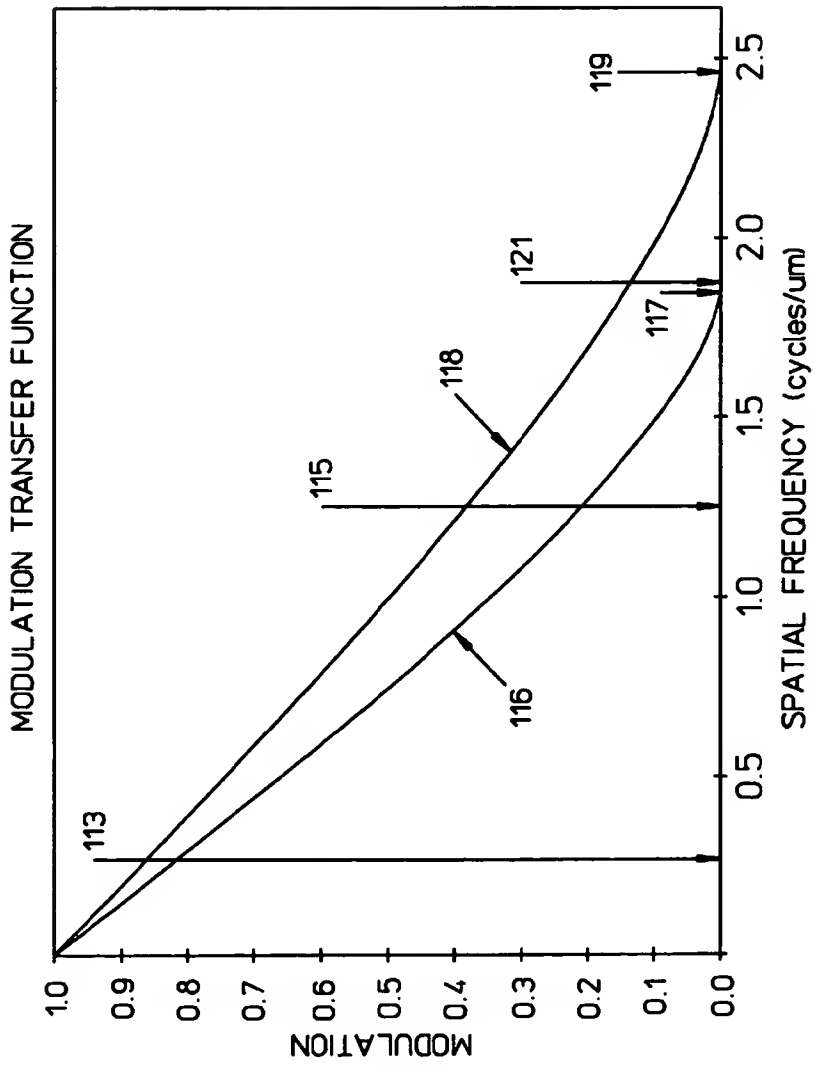
Fig. 10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MODULATION
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.5
1.0
1.5
2.0
2.5
SPATIAL FREQUENCY (cycles/um)
113
115
116
117
118
119
121

Fig. 11

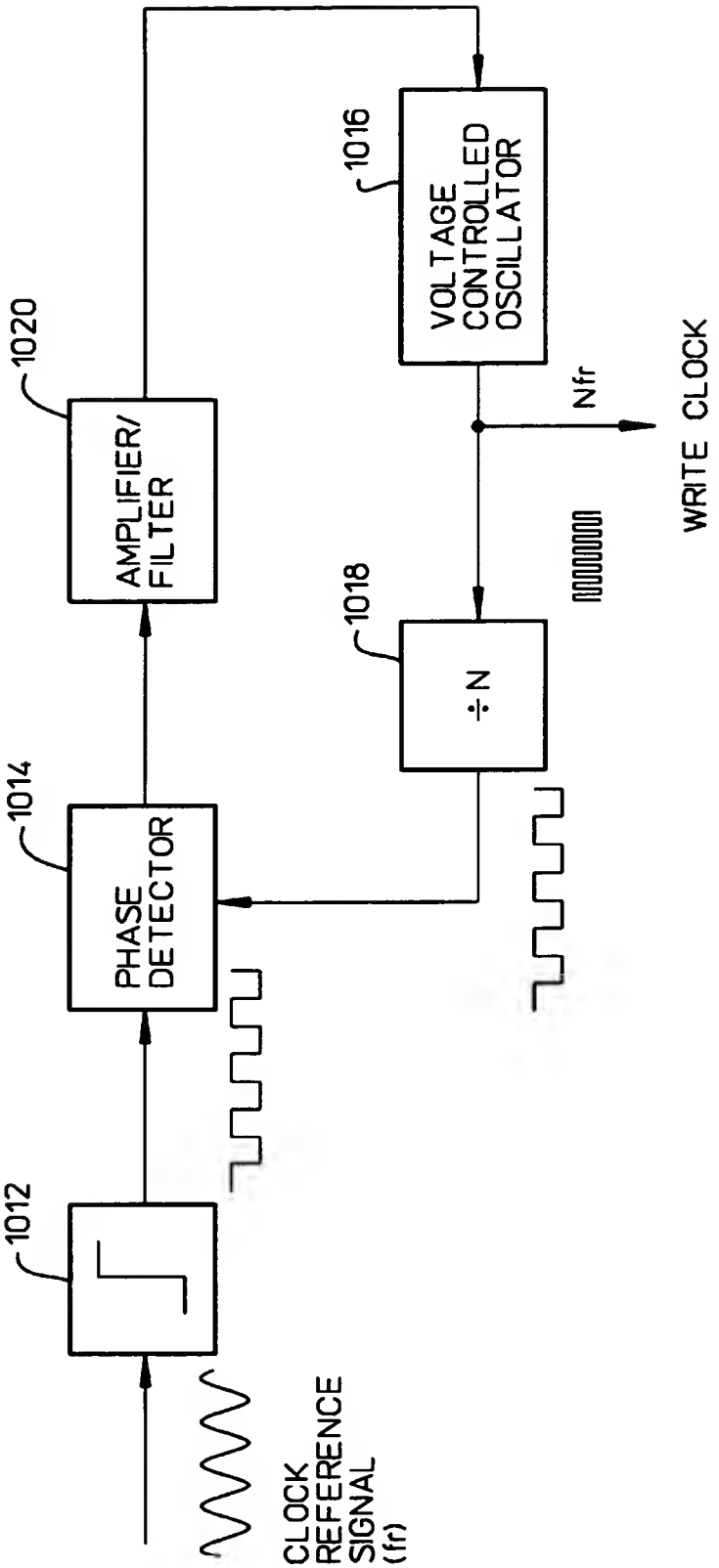

1012
CLOCK REFERENCE SIGNAL (fr)
1014
PHASE DETECTOR
1020
AMPLIFIER/ FILTER
1016
VOLTAGE CONTROLLED OSCILLATOR
1018
÷N
Nfr
WRITE CLOCK

Fig. 12

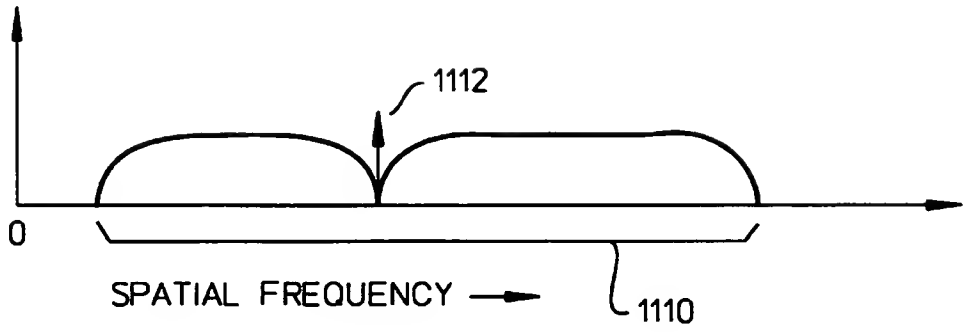


Fig. 13

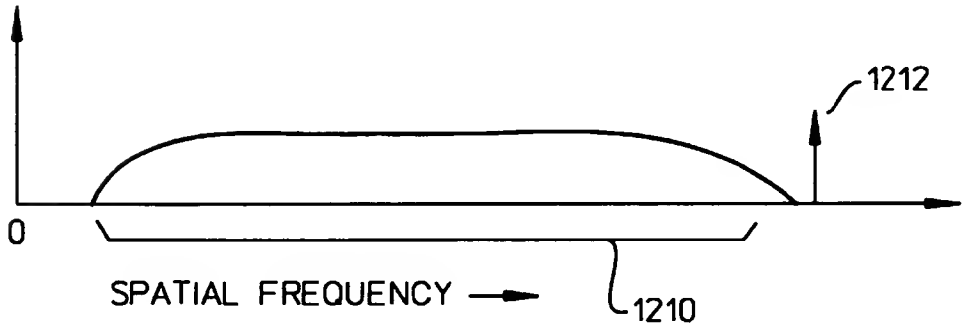


Fig. 14

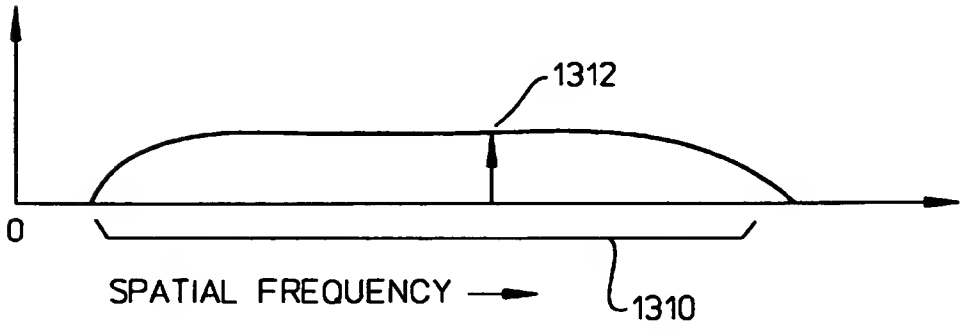


Fig. 15

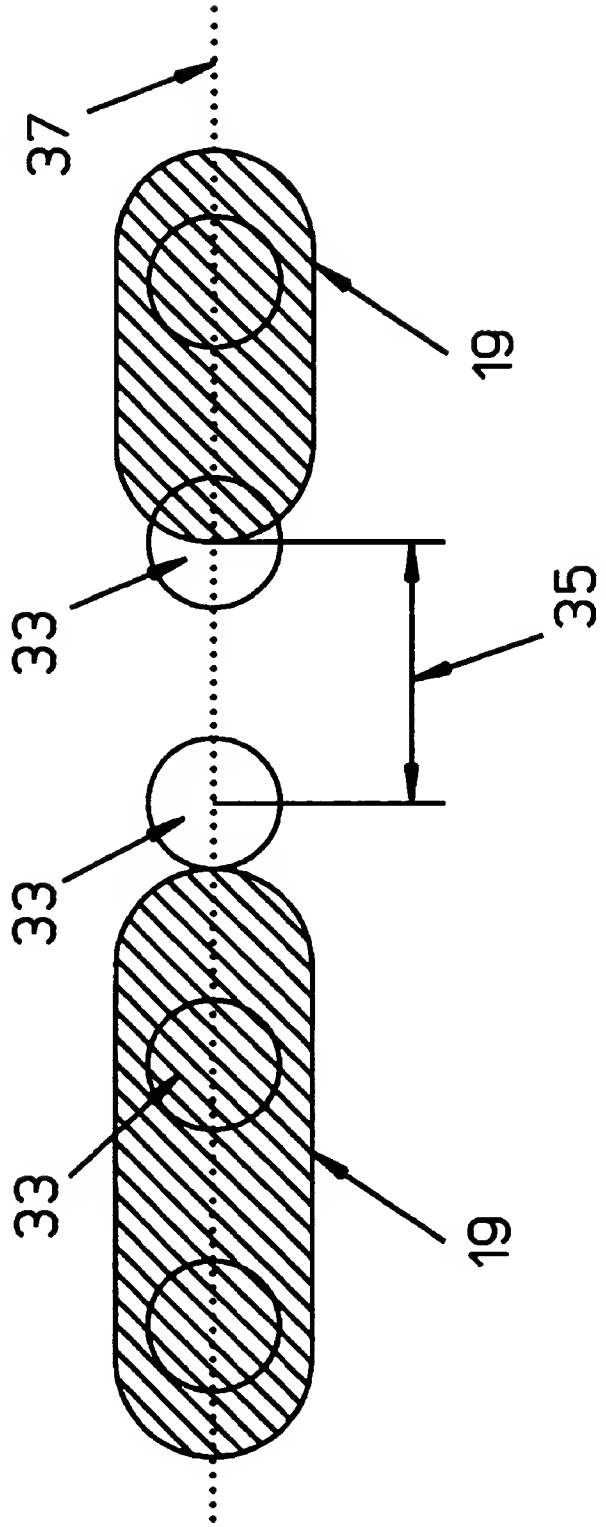


Fig. 16

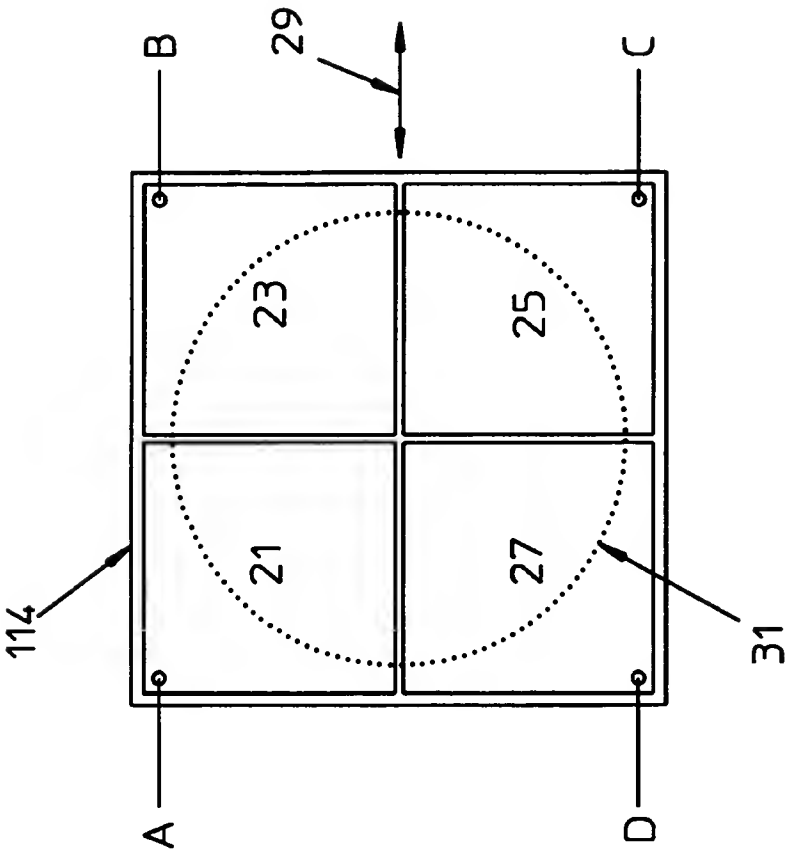
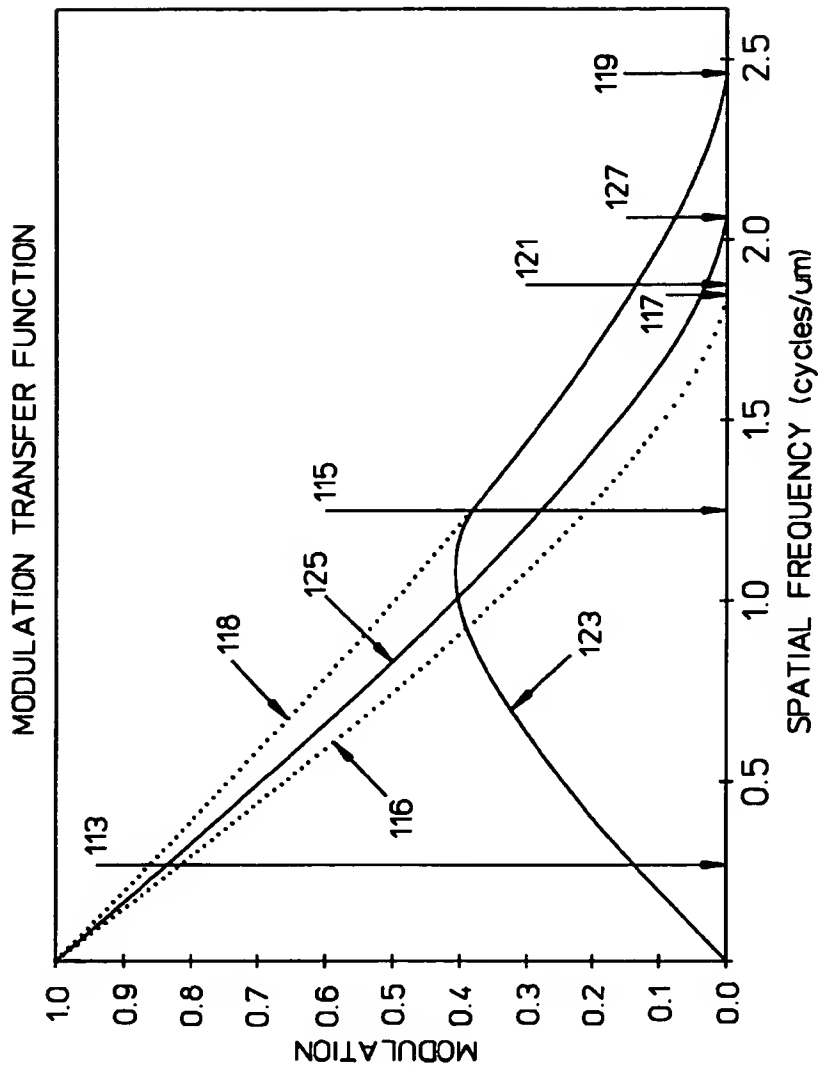


Fig. 17


MODULATION TRANSFER FUNCTION
MODULATION
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0.6
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0.4
0.3
0.2
0.1
0.0
0.5
1.0
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SPATIAL FREQUENCY (cycles/um)
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Fig. 18

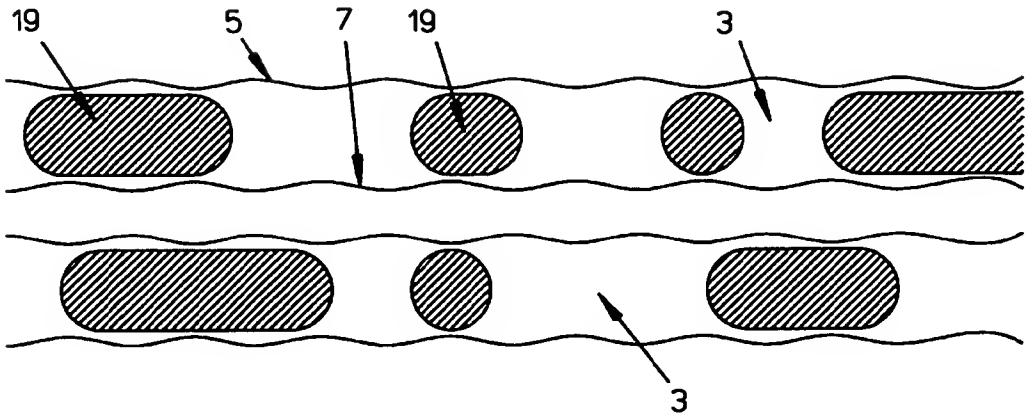


Fig. 19

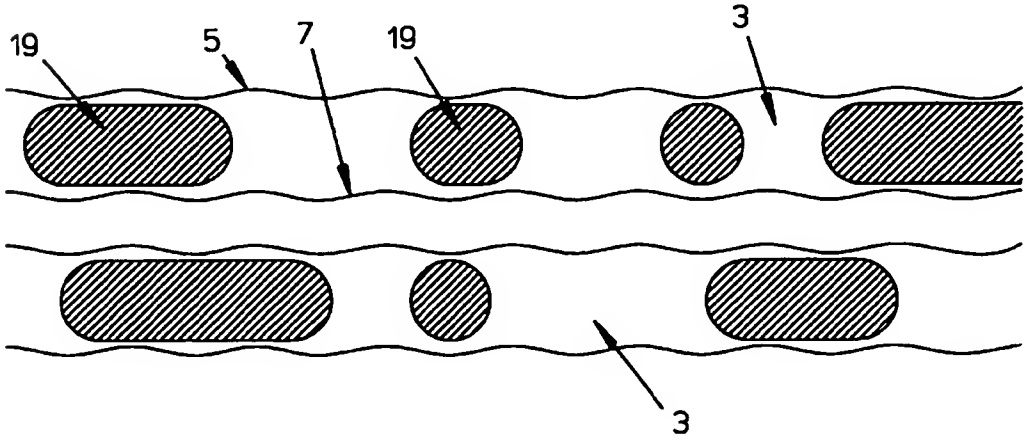
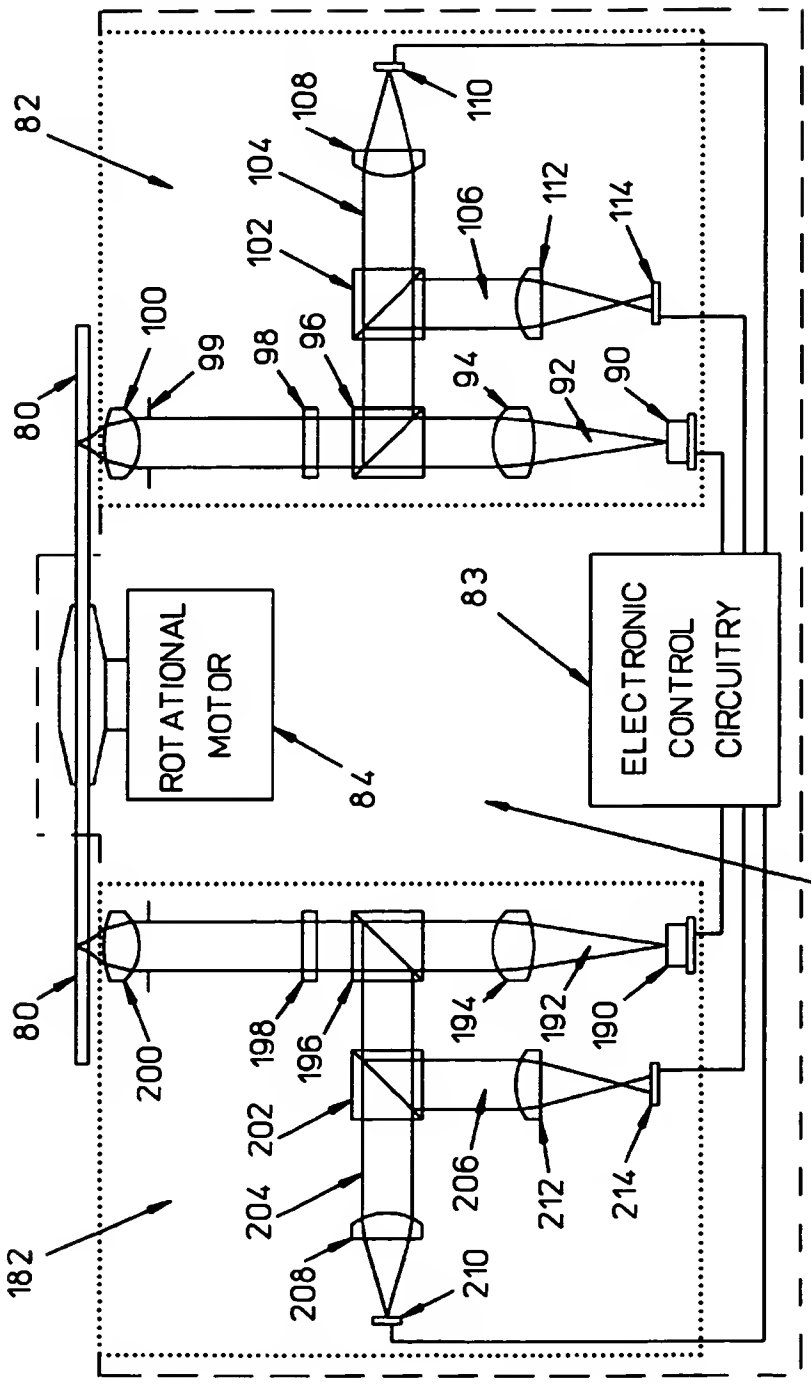


Fig. 20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ELECTRONIC CONTROL CIRCUITRY
ROTATIONAL MOTOR
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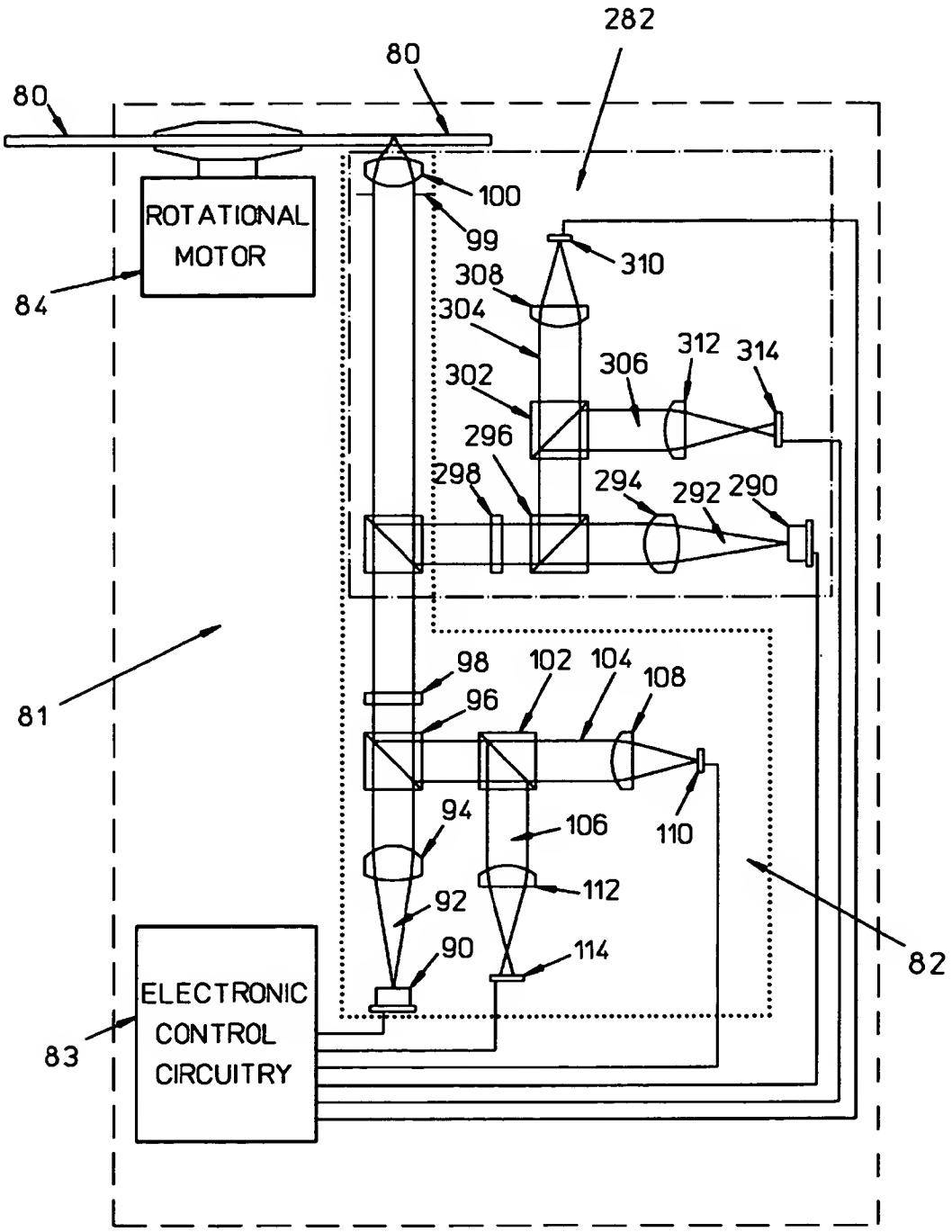
Fig. 21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ROTATIONAL MOTOR
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114
82
ELECTRONIC CONTROL CIRCUITRY
83

Fig. 22